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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,511	11/26/2003	Kevin W. Eberman	58581US002	8947

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EXAMINER	
VANOY, TIMOTHY C	

ART UNIT	PAPER NUMBER
1754	

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/723,511	EBERMAN ET AL.	
	Examiner	Art Unit	
	Timothy C. Vanoy	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *06/17/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

The applicants' election with traverse of claims 1-14, 18 and 19 submitted in the applicants' response to the restriction requirement faxed on Mar. 13, 2006 is acknowledged. The applicants' traverse of the restriction requirement has been found persuasive, and all of the pending claims will be examined. The requirement for restriction is hereby withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by the article titled "Structure and Electrochemistry of $Li[Ni_xCo_{1-2x}Mn_x]O_2$ ($0 \leq x \leq 1/2$) by MacNeil et al published in the J of the Electrochem. Soc. **149** (10) A1332-A1336 (2002), available electronically Aug. 21, 2002.

The abstract of this MacNeal et al. article describes a composition of the general formula: $Li[Ni_xCo_{1-2x}Mn_x]O_2$ for $0 \leq x \leq 1/2$. When x is chosen to be 0.1, the composition has the formula: $Li(Co_{0.8}Mn_{0.1}Ni_{0.1})O_2$. The composition is described as a cathode material.

Claims 19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by the article titled "Layered Lithium Insertion Material of $LiCo_{1/3}Ni_{1/3}Mn_{1/3}O_2$ for Lithium-Ion Batteries" by Ohzuku et al. published in Chem. Letters (2001) pgs. 642-643.

The title and the abstract of the Ohzuku et al. article describes a composition of the general formula $LiCo_{1/3}Ni_{1/3}Mn_{1/3}O_2$ which is useful in lithium ion batteries.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The person having ordinary skill in the art has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The references of record in this application reasonably reflect this level of skill.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-21 rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent App'n. Pub. US 2003/0027048 A1 to Lu et al.

The Lu et al. publication in paragraph no. 0003 describes a cathode composition for a lithium ion battery of the general formula: $Li[M^1_{(1-x)}Mn_x]O_2$ where $0<x<1$ and M^1 represents one or more metals other than chromium (examples of suitable metals include Ni, Co, Fe, Cu, Li, Zn, V and combinations thereof: please see paragraph no. 0024). The composition is in the form of a single phase having an O3 crystal structure. The Lu et al. publication is also directed to lithium ion batteries incorporating these cathode compositions in combination with an anode and an electrolyte.

Paragraph no. 0023 sets forth that the cathode composition may be synthesized by jet milling or by combining precursors of the metal elements (e. g. hydroxides, nitrates and the like), followed by heating at temperatures of at least 600 °C.

The difference between the applicants' claims and this Lu et al. publication is that Lu et al. broadly discloses that M may be at least one selected from Ni, Co, Fe, Cu, Li, Zn, V and combinations thereof whereas the applicants' claims call for M to be both Ni and Co, however it is submitted that this difference would have been obvious to one of

ordinary skill in the art at the time the invention was made because the courts have already determined that such selection of a particular member out of a prior art reference's group of members is *prima facie* obvious: please see the discussion of the *In re Petering* 301 F.2d 676, 681, 133 USPQ 275, 280 (CCPA 1962) court decision set forth in section 2144.08(II)(A)(4)(a) in the MPEP 8th Ed, Rev. 3, Aug. 2005.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10-757,645. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of 10-723,511 and the claims of 10-757,645 disclose obvious variations of the same composition. The

claims of 10-757,645 describe the composition as being of the formula: $Li_y[Ni_xCo_{1-2x}Mn_x]O_2$ where $0.025 \leq x \leq 0.45$ and $0.9 \leq y \leq 1.3$. The claims of 10-723,511 describe the composition as being of the formula: $LiNi_{0.1}Mn_{0.1}Co_{0.8}O_2$.

The difference between the claims of 10-723,511 and 10-757,645 is that the claims of 10-757,645 sets forth that $0.025 \leq x \leq 0.45$ and $0.9 \leq y \leq 1.3$ whereas the claims of 10-723,511 has a composition that chooses x to be 0.1 and chooses y to be 1.

However, it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because the courts have already determined that such selection of a numerical value within a prior art reference's numerical range is *prima facie* obvious: please see the discussion of the *In re Wertheim* 541 F.2d 257, 191 USPQ 90 (CCPA 1976) court decision set forth in section 2144.05(I) in the MPEP 8th Ed., Rev. 3, Aug. 2005.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-21 are directed to an invention not patentably distinct from claims 1-20 of commonly assigned 10-757,645. Specifically, the claims of 10-723,511 and the claims of 10-757,645 disclose obvious variations of the same composition. The claims of 10-757,645 describe the composition as being of the formula: $Li_y[Ni_xCo_{1-2x}Mn_x]O_2$ where $0.025 \leq x \leq 0.45$ and $0.9 \leq y \leq 1.3$. The claims of 10-723,511 describe the composition as being of the formula: $LiNi_{0.1}Mn_{0.1}Co_{0.8}O_2$.

The difference between the claims of 10-723,511 and 10-757,645 is that the claims of 10-757,645 sets forth that $0.025 \leq x \leq 0.45$ and $0.9 \leq y \leq 1.3$ whereas the claims of 10-723,511 has a composition that chooses x to be 0.1 and chooses y to be 1.

However, it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because the courts have already determined that such selection of a numerical value within a prior art reference's numerical range is *prima facie* obvious: please see the discussion of the *In re Wertheim* 541 F.2d 257, 191 USPQ 90 (CCPA 1976) court decision set forth in section 2144.05(I) in the MPEP 8th Ed., Rev. 3, Aug. 2005.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned 10-757,645, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon

the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

The following references are made of record:

U. S. Patent App'n. Pub. US 2005/0142442 A1 disclosing a positive electrode material for a lithium secondary battery;

U. S. Patent App'n. Pub. US 2005/0130042 A1 disclosing materials for positive electrodes of lithium ion batteries, and

U. S. Patent App'n. Pub. US 2004/0197658 A1 disclosing active material for a positive electrode.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy C. Vanoy whose telephone number is 571-272-8158. The examiner can normally be reached on Mon-Fri 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Timothy C Vanoy

Timothy C Vanoy
Patent Examiner
Art Unit 1754

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